



Maine Farm Safety Program

Bulletin #2291

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Grain Storage Safety

Grain storage is very important to farmers, but can be dangerous. Take specific safety precautions to prevent injuries and save lives.

◆ **Safety Guidelines for Grain Bins**

Grain bins should be off limits to children and unauthorized personnel. Barricade or lock them up. Portable ladders should be kept away from these areas as well. All feed storage ladders should end at least seven feet off the ground. Never allow people in or around grain bins when filling or emptying. Warning decals recognizable to children should be on this equipment. Equip all bins with properly designed doors to permit suction unloading from the exterior only.

Lockout the power supply on all unloading mechanisms. Serious injuries have occurred when someone was inside a grain bin and

the unloader started. It is very important to be able to lock the switch off to grain bin unloaders. This will prevent anyone from starting the unloaders when someone is inside the structure.

Grain Storage Safety

- ◆ Always be cautious when working with grain that has begun to spoil.
- ◆ Unload grain wagons on a level surface.
- ◆ Grain bins, silos and animal quarters are off limits to children and unauthorized personnel.
- ◆ Grain bins and silos have electrical lockout boxes. Shut off power during any work inside the bins.
- ◆ Wear respiratory protection when working around areas with dust, mold and silo gases.



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If the job can be done without entering the structure, do it. If this is not possible, take these safety measures:

- ◆ **Install ladders inside and outside of all bins.** Do not rely on a rope, chain, or pipe ladder hanging from the roof. They are not reliable and may obstruct flow during filling or increase drag during unloading. If you should become trapped in a grain bin, stay near the outer wall and keep moving. If necessary, you can walk until the bin is empty and the flow stops.

- ◆ **Always use a rope and safety harness when entering a dangerous bin situation.** Never rely on a second person outside the bin to whom you shout instructions. Equipment noise may block out or garble calls for action or help. The second person may fall or stumble in the panic and haste of climbing and running to shut down equipment.

Never allow people in or around grain bins when filling or emptying

- ◆ **Always have three people involved when entering a questionable storage situation.**

Lifting one person from inside on a rope and safety harness requires two people outside. One can go for help while the other gives preliminary aid.

◆ **Preventing Entrapment and Suffocation**

Never allow people in or around grain bins when filling or emptying. Entrapment and suffocation in grain bins happens very quickly. A person can be helplessly trapped in four or five seconds and completely submerged in less than twenty seconds.

Before working in a grain bin, always turn off the power. Never use objects to unplug running augers. Never enter a bin when unloading equipment is running, whether or not grain is flowing. Do not enter a bin with automatic unloading equipment without locking out the control circuit.

Always be cautious when working with grain that has begun to spoil. Dangers result from molds, blocked flow, cavities, crusting and grain avalanches. Always be cautious before walking on any surface crust. A breakthrough can plunge a person into flowing or hot grain with little chance of survival. Beware of steep piles of grain. Dislodge the pile with a long pole, rather than with a short shovel.

Never allow anyone to ride on trucks equipped with grain beds or gravity dump wagons. A person can be buried in seconds. Keep children off grain vehicles and out of the bins while unloading and loading. Forbid anyone from playing in hopper wagons or on hoisted grain beds.



◆ **Portable Augers and Elevators**

Make sure shields cover all intakes to ensure safety. Transport in a lowered position with safety locking devices in place. Be alert for overhead powerlines. Cables should be checked regularly for fraying. Equip the cable crank with a safety clutch to prevent injury from a spinning crank. Keep hands and feet clear of the auger and elevator intake.

◆ **Self-Unloading Grain Wagons and Forage Blowers**

Unload grain wagons on a level surface. Do not try to speed the process by elevating them. Ensure tractor brakes are in a locked position. Never climb into the hopper or grain wagon. Fasten the PTO blower securely to the tractor drawbar. Vibration can cause blower to move, allowing the PTO shaft to come apart and rotate.

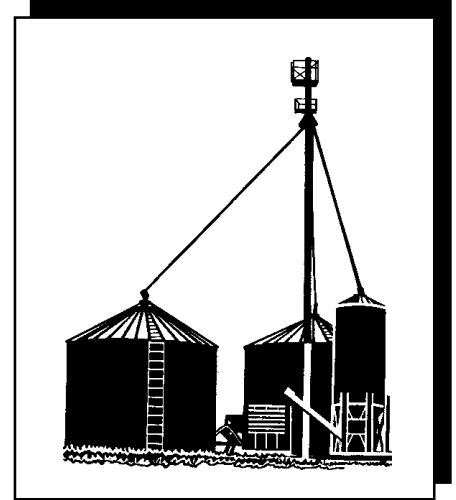
◆ **Mold and Grain Dusts**

Spoiled grain produces mold spores that can be inhaled through the nose and mouth and irritate sensitive tissue. Sometimes, this can

cause severe reactions that require hospitalization. Never work alone in heavy mold dust. Always wear a respirator that can filter fine dust particles. Avoid unnecessary exposure to mold dust.

Several measures can be taken to inhibit mold growth. Store only fully dried grain at a moisture content that is right for the length of storage in a structure that prevents water from entering. If mold growth occurs, protect yourself. Handle dusty materials mechanically if this creates less dust or keeps you away from some of the dust. Wear a close-fitting, mechanical filter respirator.

To help reduce the amount of grain dust, enclose conveyer belts, install dust collectors and make sure the ventilation system is in good working order. Remove accumulated dusts with a vacuum. Avoid sweeping. Store only adequately dried, top-quality grain to reduce spoilage. Keep insect and animal infestations to a minimum.





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